ABSTRACT OF THE DISCLOSURE

A method for determining the activity of a cell cycle regulatory factor comprising the steps of:

preparing a sample for measuring a cyclin-dependent kinase/cyclin complex from living cells;

reacting adenosine 5'-O-(3-thiotriphosphate) (ATP-γ S) with a substrate for the cyclin-dependent kinase in presence of the sample in order to introduce a monothiophosphate group into a serine or threonine residue of the substrate;

labeling the substrate by coupling a labeling fluorophore or a labeling enzyme with a sulfur atom of the introduced monothiophosphate group;

measuring the amount of fluorescence from the labeling fluorophore labeling the substrate, or reacting the labeling enzyme labeling the substrate with a substance which generates an optically detectable product by reaction with the labeling enzyme and optically measuring the amount of the generated product; and

calculating the activity of the cyclin-dependent kinase from the measured amount of fluorescence or the measured amount of the generated product with reference to a pre-produced reference curve.